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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,471	01/15/2004	Min-Chul Suh	1514.1039	4143

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EXAMINER	
GARRETT, DAWN L	

ART UNIT	PAPER NUMBER
1794	

MAIL DATE	DELIVERY MODE
12/14/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/757,471

**Applicant(s)**

SUH, MIN-CHUL

**Examiner**

Dawn Garrett

**Art Unit**

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 18-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11, 13-16, and 18-25 is/are allowed.
- 6) ☒ Claim(s) 1-4, 7 and 12 is/are rejected.
- 7) ☒ Claim(s) 5, 6 and 8-10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/15/04; 7/20/06 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                           | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

**DETAILED ACTION**

***Response to Amendment***

1. This Office action is responsive to the amendment filed September 21, 2007. Claim 11 was amended. Claims 22-25 were added. Claim 17 is cancelled. Claims 1-16 and 18-25 are pending.
2. The amendment to the specification filed September 21, 2007 is acknowledged.
3. The rejection of claims 11-16 and 18-20 under 35 U.S.C. 103(a) as being unpatentable over Fujita et al. (EP 1017118 A2) is withdrawn due to the amendment of claim 11 and applicant's arguments filed September 21, 2007.
4. Claims 1-4 remain provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 and 10 of copending Application No. 10/839,338. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 1 of '338 requires the same layers as claim 1 of the instant application and recites "at least one of a hole injecting layer and a hole transporting layer" comprises an electron acceptor material. Instant claim 2 sets forth aromatic, olefin, and heterocyclic compounds having cyano or nitro groups, which encompasses '338 claims 2-5 materials. The limitations of instant claim 3 are set forth in '338 claims 6 and 7. The limitations of instant claim 4 are set forth in '338 claim 10.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 7 and 12 are again rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The subject matter of claims 7 and 12 including variables "R", "R<sub>2</sub>" and "R<sub>3</sub>" is not described in the specification in such a way that one of ordinary skill in the art could make or use a compound having these undefined and non-described variables.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 7 and 12 are again rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 7 and 12 recite formulas comprising variables "R", "R<sub>2</sub>" and "R<sub>3</sub>". The variables are undefined and therefore considered indefinite.

***Allowable Subject Matter***

9. Claims 5, 6, and 8-10 comprise allowable subject matter as indicated in the last Office action. Claims 1-4 remain rejected under obviousness double patenting, but are considered to comprise allowable subject matter. Claims 11, 13-16, and 18-25 are

allowed. Fujita et al. (EP 1017118 A2) is considered to be the closest prior art, but fails to teach or to disclose a device comprising an electron injecting layer and/or a hole blocking layer having the express requirements in a device as set forth in independent claim 11. Claim 21 has previously been indicated as allowable (see prior Office actions).

### ***Response to Arguments***

10. The affidavit under 37 CFR 1.132 filed September 21, 2007 is insufficient to overcome the 35 U.S.C. 112, first and second paragraph rejections of claims 7 and 12 as set forth in the last Office action because: The affidavit states at paragraphs 12-15 that one would recognize the undefined "R" groups in the specification to be any organic radical. The affidavit goes on to say in paragraphs 16-20 that one of ordinary skill in the art would know how to determine the organic radicals that are actually suitable as electron donor material. The later statement makes it clear that picking and choosing and experimentation are needed in order to select appropriate "R" groups and that "R" as set forth in the invention can not actually be *any* organic radical. The application at the time of filing gives no direction as to how to select the undefined "R" groups. Determination of an appropriate "R" group would cause undue experimentation, since there are thousands of organic radicals in the field of organic chemistry. The affidavit has not presented factual evidence or cited references to show what one skilled in the art knew at the time of the filing of the application with regard to selecting the appropriate "R" substitution groups. To satisfy the written description requirement, a patent specification must describe the claimed invention in *sufficient detail* such that one

skilled in the art can reasonably conclude that the inventor had possession of the claimed invention.

With respect to the obviousness double patenting rejection, the examiner will reconsider the propriety of withdrawing the rejection in accordance with MPEP 804 and 822.01 when all other issues are resolved. It is further noted that although a terminal disclaimer was been filed in U.S. application no. 10/839,338 on July 23, 2007, the examiner of the '338 application has not yet indicated the terminal disclaimer is proper and has been accepted.

### ***Conclusion***

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571) 272-1523. The examiner can normally be reached on Monday through Thursday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571) 272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dawn Garrett/

Dawn Garrett  
Primary Examiner  
Art Unit 1794

December 3, 2007